

FIRST RECORD OF THE SPIDER GENUS *Paraplectana* BRITO CAPELLO, 1867 (ARANEAE: ARANEIDAE: CYRTARACHNINAE) FROM INDIA, WITH A DESCRIPTION OF A NEW SPECIES.

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ABSTRACT

A new species of cyrtarachnine araneid, *Paraplectana rajashree* sp. nov. is described from Karnataka, India.

Key Words: Araneidae, Cyrtarachninae, *Paraplectana*, India, Karnataka, Shivamogga, nouveau taxon, taxonomy, natural history.

INTRODUCTION

The Family Araneidae Clerck, 1757, which includes some of the most conspicuous orb-weaving spiders, is the third largest in the world, and consists of widely varied members, differing both structurally and behaviorally, occupying a myriad of diverse habitats and ecosystems globally, ranging from woodlands, grasslands, scrublands, wetlands and urban dwellings. (WSC, 2015; Dondale *et al.*, 2003)

Hitherto represented by 28 genera and 163 species from India (Keswani *et al.*, 2012), the present report describes a new species of the genus *Paraplectana* Brito Capello, 1867, a first for the country.

Paraplectana, heretofore represented by 11 species globally (WSC, 2015), has been historically poorly defined, and remains so; seemingly close to *Cryptarachne* Thorell, 1868 it is placed in the same sub-family as the latter (Roff & Haddad, 2015). Presently, the only distinction between the two lies in the shape and structure of the opisthosoma, with that of the former being blunt, neither dentate nor tuberculate, possessing three pairs of 'muscle impressions', round dorsal markings, nearly circular, wider than long, glossy and convex, while projecting greatly over the base of the prosoma, nearly obscuring it (Lee *et al.*, 2015; Simon, 1895; Blackwall, 1865). Consequently,

some species currently placed under *Cyrtarachne*, may belong under *Praplectana* and need a taxonomic reassessment.

The present species is hereby placed under *Paraplectana*, pending a suprageneric revision of the Araneidae, in India. Additionally, a species previously placed under *Cyrtarachne* is transferred to *Paraplectana*: *P. gravelyi* Tikader, 1961 comb. nov. based on the morphological characteristics provided in the original description, being synchronous with the current definition of the genus.

MATERIALS AND METHODS

Holotype female visually detected and hand collected, during a series of nocturnal surveys conducted to document the Araneae of the 'Kans' of Hosanagara taluka, Shivamogga district, Karnataka; specialized forest lands harboring unique microclimatic conditions, consisting of evergreen and semi-evergreen vegetation, surrounded by otherwise deciduous forests (Hemanjali *et al.*, 2015).

Specimen photographed *in-situ* with a Nikon D7200 DSLR, utilizing a 50mm Yashica lens, reversed with extension tubes, and a Vivitar electronic flash paired with a homemade diffuser; subsequently euthanized and preserved in 80% ethanol.

Female genitalia excised, cleared and examined under a stereo zoom microscope; measurements provided are in mm and were taken using a digital caliper; leg measurements are provided as follows: Total (femur, patella, tibia, metatarsus, tarsus).

Terminology used follows Dondale *et al.*, 2003. Type material examined is deposited in the repository of the Forest Training Institute, Chikhaldara, Amravati.

Taxonomy

***Paraplectana* Brito Capello, 1867**

***Paraplectana rajashree* sp. nov.**

(Figures 1-7)

Type Specimen

Holotype female, Hosanagara taluk, Shivamogga district, Karnataka. 13.92°N 75.07°E, 18.x.2015. Sumukha J. N.

Etymology

The specific name is respectfully dedicated in honor of Ms. Rajashree Khalap, Jt. Secretary, Satpuda Foundation & Trustee, Bagh Foundation; wildlife conservationist, ardent birder and aboriginal dog fancier; mentor and friend, in appreciation and gratitude.

Diagnosis

Paraplectana rajashree sp. nov. can be distinguished from all congeners by a combination of the following characters, namely epigyne sclerotized, atrium arched, bulging, lateral sclerites large, conspicuous, bulbous, widely separated, with the exception of a narrow medial joint; median septum deeply notched, scape absent. Copulatory ducts stout, narrowing anteriorly, widely spaced posteriorly, curved near ventro-laterally located copulatory openings; spermathecae ovoid (Figures 6-7).



Figure - 1, *Paraplectana rajashree* sp. nov.
Habitus (Dorsal view)



Figure - 2, *Paraplectana rajashree* sp. nov.
Habitus (Lateral view)



Figure - 3, *Paraplectana rajashree* sp. nov.
Habitus (Posterior view)

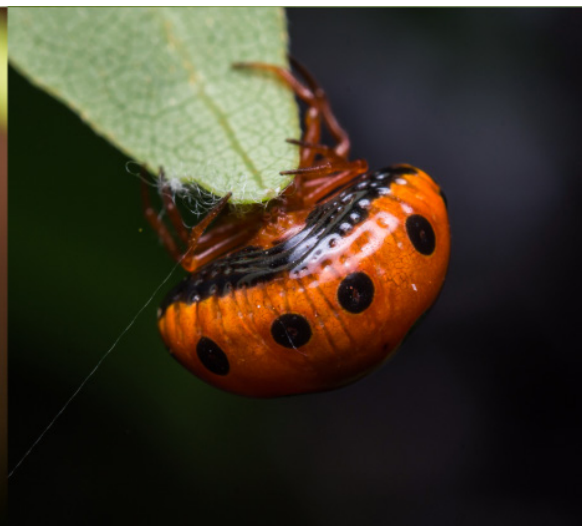


Figure - 4, *Paraplectana rajashree* sp. nov.
Habitus (Ventral view)



Coccinellid beetle *Paraplectana rajashree* sp. nov.
Figure - 5, *Paraplectana rajashree* sp. nov. showing resemblance to
coccinellid beetle (sp. indet).

Most closely resembles *Paraplectana duodecimmaculata* Simon, 1897 but differs in possessing 14, as opposed to 12 macula on opisthosoma dorsum, venter with wide, conspicuous deep-black postero-lateral edge; epigyne structurally different.

Description

Female (Holotype): Prosoma 2.06mm long, 1.84mm wide. Opisthosoma 4.71mm long, 5.90mm wide. Leg measurements: I 4.19 (1.44, 0.56, 1.06, 0.76, 0.37), II 4.14 (1.42, 0.58, 0.96, 0.79, 0.39), III 3.89 (1.40, 0.50, 0.89, 0.78, 0.32), IV 4.15 (1.46, 0.57, 1.03, 0.68, 0.41).

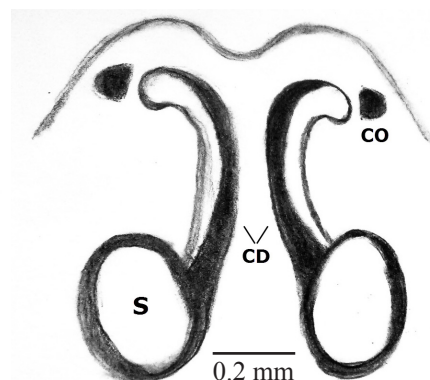


Figure - 6, Epigyne (Dorsal view)

Figure - 7, Epigyne (Dorsal view)

CO: Copulatory organs; CD: Copulatory duct; S: Spermatheca

Prosoma longer than wide, convex, orange-red in color, partially covered by an overarching, opisthosoma, wider than long, glossy, convex, broadly truncated in front, with a series of black spots; ten lateral, four median, over an orange-red base. Median pair antero-lateral spots largest, irregular in shape, venter with a broad, deep black postero-lateral border. Leg coloration same as prosoma, meta-tarsi darker.

Epigyne as in Diagnosis. Male unknown.

Distribution

Presently known only from a small patch of 'Kans' forest in Hosanagara taluka, Shivamogga district, Karnataka.

Natural History

A small, nocturnal araneid which, like other members of its genus, purportedly mimics beetles belonging to the family Coccinellidae Latreille, 1807 (Savory, 1928) as evidenced by the vivid, aposematic coloration (Figure-3). Presumably rare in nature; an extensive search yielded a single specimen. In Singapore, only seven specimens (possibly different species) observed and photographed over a period of seven years (Mr. Nicky Bay, pers. comm.). Web structure unknown.

Remarks

Paraplectana is perhaps one of the most neglected Araneid genera. Of the 11 hitherto known, patchily distributed species known to occur globally, none are satisfactorily described; especially those chronicled in the 19th century. Their biology, including natural history and distribution remains poorly understood. The genus, on the whole, is in dire need of a taxonomic reevaluation and revision.

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